Charlotte Mason's House of Education,
Scale How, Ambleside, UK, 2009

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what they please, require all arrangements to yield to their whims, literally turn the house upside down regardless of the comfort of others, and all this just because they are "home from school." Is not this on the face of it absurd? Is it right that in the minds of children, school should be associated with law, order, consideration, and home with lawlessness, disorder, thoughtlessness? We all know that the former are the conditions which make for happiness, the latter most emphatically *not*, and yet how often do they prevail in holiday-time in otherwise well-regulated homes? Would it not be conducive to the comfort of the household and the happiness of the children if, before the holidays came, parents decided the general lines on which they should be spent? Could not arrangement be made for the children to indulge their special tastes to a degree which is not possible in the more restricted time-table of school? The average girl has her hobbies, over which she would fain spend every moment of her leisure; what delight to be able to give to them something more than the odds and ends of time! A mother, who is interested in her girl's life, knows well what these hobbies are, and a little planning and arrangement may give hours of happy occupation which otherwise might have been dawdled fruitlessly away. The quiet room which has been given up to the young folk for preparation of school-work may well become their own room to do what they like in during the holidays. Then, without turning the house upside down, they may enjoy the freedom which makes the delightful contrast between school-time and holiday, and the general feeling of disturbance which often characterizes the latter period will be non-existent. Naturally, when weather permits, it is well that much time should be spent out of doors, but here again the need of organization is obvious. Within limits it is well to let children plan expeditions and make arrangements, but there is much that had better not be left to them, as it is rather beyond their power of management. Holidays should not be an idle time, but a time of fresh occupations, and when provision is adequately made in accordance with this view, we shall hear little of the feeling of relief on the part often of both parents and children when the time for return to school comes.

(To be continued.)

OBJECT LESSONS IN THE NURSERY.

By Ethel R. Lush,

Head Mistress of the Ipswich Higher Grade School; Organising Mistress to the Ipswich School Board.

It must be remembered in connection with Object Lessons, that the end in view is not so much to impart information to the children, as to lead them to acquire the faculty of observation. Careful training in this direction will enable them to obtain knowledge at first hand and, what is even more essential, will give them a desire to do so. It is useless to attempt to give an object lesson unless the object or objects are actually in the presence of the children. Exact knowledge is only to be gained by handling and thoroughly examining the object under notice; and diagrams, pictures, lantern-slides or models, though, doubtless, excellent accessories, are useless substitutes. In such case the lesson becomes instructive rather than educational. It is a good plan to allow the children to make simple drawings, illustrative of their observations. Modelling in clay may likewise be very advantageously associated with object lessons, as a means of correcting and impressing the points observed. It is obvious that, if children are to reap any advantage from these lessons, the first requisite is close attention. It has been found that the best method of securing this is to adopt an easy conversational style, far removed from the pedantic, and simply and naturally to direct the attention of the children to the different features which call for notice.

The main value of object teaching then is, firstly, to teach the children to observe, compare and contrast; and, secondly, to impart information. By its means, too, their lives are rendered happier and more interesting, inasmuch as an opening is provided for the exercise of eye, hand and mind. It gives them an opportunity of learning the simple facts of nature, and, by directing their attention to external objects, makes their education less that of books—in these days of examinations "a consummation devoutly to be wished."

Some Strange Stems.

Specimens required:—White mustard (growing), complete plants of yellow flag or Solomon's seal, sedge, strawberry, stems of hop, scarlet runner, white bryony, ivy, goose-grass, clematis, climbing nasturtium, sweet or common pea, vine, Virginia creeper—large and small leaved.

A few days ago I filled a tumbler with water, tied a piece of white muslin over the top, and sprinkled it with seeds of white mustard. This done, a bell jar was put over the tumbler and the whole placed in a dark cellar. Now you see the result. The seeds sent tiny thread-like roots downwards into the water, and delicate young stems grew upwards. These stems are upright, like so many miniature trees. If you think for a moment you will be able to tell me of various plants growing in the garden or in the hedges which have also upright stems. The hyacinth, geranium and daisy are good examples. But there are many plants whose stems are not upright, and it is these I want you more particularly to notice. During my walk this morning I found many interesting plants which we will examine together.

Here is a *yellow flag* which I found by the side of the river. This thick, knotty, dark-coloured part was partly underground and partly on the surface. I am not surprised you took it for a root, for indeed it looks very much like one. If, however, we look carefully at it we find that while its lower side gives off numerous roots, its upper side bears leaves and shoots, and by this we know it to be a stem. The *blue iris* and *Solomon's seal*, both of which are common in gardens, have stems of this kind.

Another stem which strongly resembles the *rhizome*, as the one we have just examined is called, is the creeping stem of *sedge*. This specimen, too, was found by the water's edge. If we compare it with the flag we find that it is thinner than a rhizome, that it grows to greater length and is completely underground throughout its course. Notice that, as in the flag, root fibres are given off from its under side and leaves from its upper side. *Sand-sedge* grows on the sea-shore, where its creeping stems are useful in binding together the loose sand, thus preventing it being washed away by the waves. *Couch grass*, on the other hand, by means of its creeping stems, proves a pest to the farmer in whose fields it flourishes.

The *strawberry plant* is possibly better known to you. At first the strawberry plant is merely a tuft of leaves with short flower stalks but after a time it sends out a long shoot, which trails along the ground until quite clear of the parent plant, and then gives off roots and leaves and forms a new plant. This kind of stem is called a *runner*.

Very much like the strange stem of the strawberry plant is the house-leek. Look carefully at the specimen and compare it with a strawberry runner; you will find that it is thicker and shorter, and that its leaves are arranged in close-set tufts.

Have you ever wondered why *gooseberry* and *currant* bushes spread so rapidly? You can discover the reason for yourselves by examining a gooseberry bush. You will find that some branches curve downwards, strike into the ground and send off rootlets downwards and a stem into the air, thus forming a new plant.

A *rose bush* takes exactly the opposite course, sending off branches beneath the surface, which after a time curve upwards and push their way above ground.

We shall next examine quite a different kind of stem. Here are three long trailing stems, the *hop*, *scarlet runner* and *bryony*. All agree in one particular—their stems are too weak to stand erect, so they support themselves by twisting round firmer bodies in a spiral manner. But how do they differ from each other? We must look carefully to ascertain. Here they are, side by side, all twisted and curved, and yet not alike. The *hop* curves or twines from left to right, moving in the same direction as the hands of my watch as it lies face upwards on the table. A great scientist tells us that he planted a hop in a flower pot and watched its growth. Just at first the stem grew upright, but after a time it kept bowing round in a circle, moving slowly from left to right, feeling for some support. When you find a stem twisted spirally you will know it has sought in vain for something round which it could twine. In our *scarlet runner* this is plainly shown: the twining is in the opposite direction moving from right to left like a corkscrew; whereas the stem of the *white bryony* takes first one direction then another. There are stems which climb by even stranger means than these three and many are the devices by which these plants achieve their end.

Look at this branch of *ivy*; I tore it away from a wall to which it was clinging tenaciously. "How was this clinging and climbing effected?" Notice the little brown rootlets, for that is what they are, which are given off so numerously from the stem. These penetrate into cracks and crevices so successfully that when I tore away my spray of ivy many rootlets were left behind.

A very well-known plant is the *goose-grass*, which you have often found for yourselves in the hedges. Many are the tricks you have played with it, but did you ever try to find out by what means the goose-grass clings so closely to any object it touches. If you examine the stem and leaves you will see that they are thickly set with backward directed hooks and it is these which are caught in the surrounding growth, thus enabling the goose-grass to climb and gain support.

The next two plants which we examine climb by means of their leaf-stalks. They are the *clematis* and *climbing nasturtium*. In these cases the leaf-stalk or petiole twines tightly round the object of support and thus bears the weight of the fragile stem.

Another class of climbing plants is even more interesting still. These climb by means of thread-like organs called tendrils. Examine for yourselves the stems of *sweet-pea, field-pea, vine, white bryony and Virginia creeper*. You will find that each of them gives off numerous tendrils which, though alike in delicacy, general structure and function, are yet found to be very different from each other if carefully examined.

The tendrils of the *pea* are formed from leaves—modified leaves, we call them. They are very sensitive, and if you touch one very lightly on its under surface near the curved tip, it bends very quickly.

In the *vine* it is the flower-stalk which is modified. The tendril thus formed is thicker and longer than those of the pea and is, too, much less active.

The tendrils of the *white bryony* and *Virginia creeper* are modified branches. In both plants we find the tendrils much more curved and twisted than those previously examined. The *bryony* tendril indeed, with the exception of a short piece at the beginning and another at the tip, is spirally twisted throughout its length. Notice how elastic the tendrils are. You may pull and twist them in all directions without breaking them. This elasticity is useful in preventing the plant from being torn from its support by rough winds. The tendrils of the small-leaved *Virginia creeper* have at the ends tiny discs by means of which they stick to the walls.

There are many other strange stems about which I should like to tell you but they must wait till another day.

HEALTH CONDITIONS IN SCHOOL LIFE.

PART I.

BY JOHN STRACHAN, M.D.

I HAVE long felt that the teaching and the medical professions ought to be more closely allied than they have been in the great work of making the most of the rising generation. While it is the province of the teacher to equip the young mind with such knowledge as will be required in the coming life, and to impart such training and culture as will best fit the individual for the social sphere to which he may be called, it lies rather with the medical man to maintain health and vigour, and so promote full growth and development of the organism which is the recipient of that teaching and culture. The real and ultimate success of the teacher must depend, not only upon his own abilities, but also and in greater degree upon the organic condition of the material with which he has to work. One may as well expect to win the Derby with a weakly, ill-developed horse, as to win a prize in the great race of life with a body and brain in a like condition. No amount of cramming and training will get a strong mind out of a weak brain, and this brain physique must depend upon the health and vigour of the entire organism during the period of development. Thus it is of the utmost importance to a sound and successful education that health be maintained at the highest level, and the conditions determining health must, therefore, be of vital interest and importance in the management of school life.

The importance of health in education is now recognised by the Department, so far as regards so-called sanitary conditions—as air space, ventilation, drainage, etc.—and suitable arrangements for these are insisted upon in State-aided schools. With reference to such matters, I shall only say that no amount of ventilation, consistent with a due degree of warmth, especially in winter, can render the air of